TENNESSEE DEPARTMENT OF EDUCATION
FIRST TO THE TOP

Web Design Essentials

Primary Career Cluster:	Information Technology
Consultant:	Bethany King Wilkes, (615) 532-2844, Bethany.Wilkes@tn.gov
Course Code(s):	5902
Recommended Prerequisite(s):	Keyboarding (0810), Computer Applications (5891/3638/3721)
Credit:	1
Grade Level:	10-12
Aligned Student Organization(s):	Skills USA: www.tnskillsusa.com Brandon Hudson, (615) 532-2804, Brandon.Hudson@tn.gov Technology Student Association (TSA): www.tntsa.org Amanda Hodges, (615) 532-6270, Amanda.Hodges@tn.gov Future Business Leaders of America (FBLA): www.fblatn.org Sarah Williams, (615) 532-2829, Sarah.G.Williams@tn.gov
Teacher Resources:	http://www.tn.gov/education/cte/InformationTechnology.shtml

Course Description

This course, which is designed as the first level of Web Design, will teach students workplace and leadership skills for advancement into the Web Design Application course. Keying and layout and design skills are essential. Students will develop Internet research techniques for business; acquire navigation mapping skills; effectively use a Web site; study fundamental concepts of digital commerce transaction security; examine related social, legal and ethical issues; study electronic financial management practices and integrate the elements of Web Design.

Web Design Essentials focuses on the language, structure, and essential concepts and principles of page layout and design and the ethics related to the production of Internet presentations. Typography, layout, and design guidelines will be applied in the design of Web pages. Upon completion of the course, a student will be able to evaluate, implement and apply the use of technology in Digital Commerce and Web Page Design for business. *(This course requires a computerized workstation with Internet access for each student and any Commercial Off The Shelf (COTS) Web Design Software.)*

Course Standards

Standard 1.0

Demonstrate knowledge of the Internet and various terms, tools, and utilities associated with the World Wide Web.

The student will:

1.1 Illustrate the relationship of Web related terms to Web design and software applications.
1.2 Navigate successfully between uniform resource locator links.
1.3 Evaluate and apply standard path/file name structure.
1.4 Research new technologies.

Sample Performance Task

- Evaluate methods used or actions taken to design Web sites and assign the appropriate term.
- Comprehend and discuss the difference between File Transfer Protocol and HyperText Transfer Protocol.
- Identify new changes in technology. Provide descriptions of changes or evolution.

Integration/Linkages

Language Arts Gateway English Standards I, II, III, IV, Mathematics, Computer Science, W3C Users Interface domain, *SCANS (The Secretary's Commission on Achieving Necessary Skills)*, National Standards for Business Education, Policy Commission for Business and Economic Education, Future Business Leaders of America, Delta Pi Epsilon, National Educational Technology Standards, and Industry Standards

Standard 2.0

Evaluate the use and effectiveness of various types of Web technologies—as evolving new media—from a business and communication perspective.

The student will:

2.1 Identify and evaluate current uses of the Internet for business and communication.
2.2 Analyze the advantages and disadvantages of electronic commerce as a business tool.
2.3 Assess different approaches to electronic commerce.
2.4 Analyze the changing nature of business.

Sample Performance Task

Use the Internet to research and compare financial, educational, government, commercial, social, entertainment, agricultural, and technology Web sites.

Integration/Linkages

Language Arts, Mathematics, Computer Science, W3C Users Interface domain, *SCANS (The Secretary's Commission on Achieving Necessary Skills)*, National Standards for Business Education, Policy Commission for Business and Economic Education, Future Business Leaders of America, Delta Pi Epsilon, National Educational Technology Standards, Industry Standards, Policies Commission for Business and Economic Education

Standard 3.0

Demonstrate an awareness of the social, legal, ethical, safety, and personal issues in conjunction with Web design, the Internet, and the World Wide Web.

The student will:

3.1 Evaluate the concepts of ethics and integrity as related to the business environment.

3.2 Balance employee privacy rights with employer obligations to provide a safe working and professional environment.

3.3 Demonstrate proper etiquette and knowledge of acceptable use policies when using networks, Internet, and intranet.

3.4 Model respect of electronic property when manipulating, morphing, or editing graphics, video, text and sound.

3.5 Examine copyright laws and issues.

3.6 Model the ethical acquisition and use of digital information; practice established methods to cite sources.

3.7 Assess electronic commerce Web security, including secure sockets layer, Hypertext Transfer Protocol Secure, encryption key, digital certificate, spoofing, firewall, digital cash, and smart cards.

3.8 Discuss threats to personal safety and welfare in use of the World Wide Web and related technologies.

Sample Performance Tasks

- Students will research a business that provides a *free* service, a business that provides a fee service, and a business that provides both free *and fee* services. Determine if the business has a privacy statement and then record the information. If the business is accredited by an agency that evaluates online businesses, visit the accreditation sites, read and record the information on their services including any costs.

Integration/Linkages

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Standard 4.0

Demonstrate the ability to manipulate Web page markup language text, graphics, hyperlinks, tables, forms, and multimedia according to W3C (World Wide Web Consortium) standards.

The student will:

4.1 Manipulate markup language tags, according to W3C standards, to produce text, graphics, hyperlinks, tables, forms, and multimedia on a Web page.

4.2 Format text, graphics, hyperlinks, tables, forms, and multimedia using the appropriate markup language tags and Web design techniques to enhance the look of a Web page.

4.3 Analyze the use of graphic images in Web Design.

4.4 Insert inline graphics, resize graphics, create graphic links, and set hot spots using markup language tags.

4.5 Insert multimedia files, including MIDI, MP3, and video streaming using markup language tags.

Sample Performance Task

- Enter markup language tags into a text editor to create Web pages that include text, graphics, hyperlinks, tables, forms, and multimedia formatted according to proper Web design techniques. Include a questionnaire form that others can answer online, store the data, and then report on the results. Open the markup language file in a browser; make corrections needed to view the page as intended.

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Standard 5.0

Develop a basic Web site using markup language, graphics, hyperlinks, tables, forms, and multimedia.

The student will:

5.1 Develop a story board and organize an appropriate file structure for a Web site.

5.2 Create a basic Web site using markup language, including graphics, hyperlinks, tables, forms, and multimedia.

5.3 Evaluate the elements of the Web site for design effectiveness.

Sample Performance Task

- Create a personal Web site using markup language. View the Web site in multiple browsers to compare how each one renders.

Integration/Linkages

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Standard 6.0

Incorporate use of cascading style sheets within a Web site.

The student will:

6.1 Understand and apply the structure of a Cascading Style Sheet (CSS) rule.
6.2 Analyze the differences between inline, embedded, external, and imported styles.
6.3 Evaluate the benefits of using CSS to format Web pages.
6.4 Apply basic CSS styles to a Web page.

Sample Performance Task

- Add new, unformatted pages to the previously created personal Website. Create and attach CSS to the new mark-up language documents.

Integration/Linkages

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Standard 7.0

Explore the changing dynamics of markup languages.

The student will:

7.1 Explore the history of changing aspects of markup languages, such as SGML, HTML, XHTML, DHTML and Structuring Data with XML.
7.2 Increase Web site traffic through the use of Internet browsers and search engines.
7.3 Incorporate the use of dynamic features.

Sample Performance Task

- Students will use a dynamic feature and existing markup language file to make their pages accessible to additional people.

Integration/Linkages

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Standard 8.0

Examine characteristics, components, and functions of basic network designs.

The student will:

8.1 Illustrate how computers are connected (both wireless and physical) to form a local area network (LAN).

8.2 Differentiate between peer-to-peer and server-based networks.

8.3 Examine considerations involved in implementing servers in peer-to-peer and server-based networks.

Sample Performance Task

- Draw a schematic for a peer-to-peer network and a server-based network. Describe the differences between the two types of networks.

Integration/Linkages

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Standard 9.0

Demonstrate proficiency with the basic features and utilities available with commercial off-the-shelf (COTS) Web building software.

The student will:

9.1 Evaluate commercial off-the-shelf products.

9.2 Demonstrate familiarity with features of Web publishing packages that use graphical user interfaces (GUI editors).

9.3 Use commercial off-the-shelf Web building software to create Web page.

Sample Performance Task

- Construct several Web pages with COTS products; assess the abilities and limitations of each product; use HTML scripting abilities from previous lessons to modify the constructed pages.

Integration/Linkages

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Standard 10.0

Apply the appropriate process and technique to create animation.

The student will:

10.1 Evaluate basic animation creation.
10.2 Analyze the application of appropriate background color for use in animation creation.

Sample Performance Task

- Construct a basic animation sequence.

Integration/Linkages:

Language Arts, Mathematics, Computer Science, W3C Users Interface domain, *SCANS (The Secretary's Commission on Achieving Necessary Skills)*, National Standards for Business Education, Policy Commission for Business and Economic Education, Future Business Leaders of America, Delta Pi Epsilon, National Educational Technology Standards, Industry Standards, Policies Commission for Business and Economic Education

Standard 11.0

Demonstrate techniques used for graphic enhancement.

The student will:

11.1 Demonstrate procedure to sharpen image quality.
11.2 Evaluate techniques to replace photo background.
11.3 Analyze blurring techniques to hide photo imperfections.
11.4 Demonstrate cropping procedures of photo dead space.

Sample Performance Task

- Perform the procedures used to sharpen photo quality and enhance colors using Web-safe color schemes.
- Illustrate the techniques used to swap out photo backgrounds.
- Demonstrate blurring techniques to mask photo imperfections.
- Identify photo dead space and crop photos.
- Present work to the class.

Integration/Linkages

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Standard 12.0

Evaluate commercial Web site publishing, compare various domain hosting services, and analyze the current market rates for hosting and maintenance of the site.

The student will:

12.1 Evaluate commercial domain hosting services.
12.2 Distinguish between and evaluate different search engines.
12.3 Evaluate the concepts of domain name hosting, transfer, parking, registration, and sub hosting.
12.4 Employ the use of Meta-tags to enhance and optimize commercial Web site publishing.
12.5 Analyze various services offered by Internet hosting services.
12.6 Distinguish between services offered by commercial domain hosting services and their costs.
12.7 Analyze various services offered by Internet Web site design services.
12.8 Distinguish between services offered and costs by a commercial Web site design service.
12.9 Analyze the cost of host Internet connection and equipment required for hosting and maintenance.

Sample Performance Task

- Assess and compare five commercial Internet hosting services. Research the type of hardware, operating systems/platforms used and their connection type. Perform a cost analysis between site equipment configurations.

Integration/Linkages

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Standard 13.0

Design and present a basic Web project incorporating all standards in the Web Design Essentials course.

The student will:

13.1 Demonstrate the ability to design a basic Web site
13.2 Produce, test, and deploy a working Web site onto a live Web server.
13.3 Manage files locally and on a Web server.

Sample Performance Task

- Students present to local business community a fully-functioning online commercial site. Examples of sites can be developed for small businesses, community organizations, schools, electronic portfolio, and e-commerce Web site for a name brand item.

Integration/Linkages

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Standard 14.0

Demonstrate human relations, communication, organizational, time management, and professional leadership skills.

The student will:

14.1 Demonstrate self-initiative through group projects.
14.2 Examine the value of leadership skills.
14.3 Illustrate image-building and public relations techniques.
14.4 Assess decision-making skills.
14.5 Demonstrate effective teamwork and critical analysis applying conflict resolution techniques.
14.6 Examine the value of leadership skills and confidence through personal reflection.
14.7 Demonstrate parliamentary procedure skills through team activities.
14.8 Analyze the goals and apply the principles of Future Business Leaders of America.

Sample Performance Task

- Design and prepare layout for a membership recruitment bulletin for the Future Business Leaders of America that is appropriate for the school Web page.
- Develop (or add to an existing) Future Business Leaders of America Web page; incorporate the latest developments in HTML/XHTML/other markup language to make a dynamic site or page with multiple graphics, hot spots and links to other educationally related sites. The site should include links to meeting minutes, leadership sites, officers, e-mail and related leadership materials. The site should support links to resources such as the Tennessee Department of Education, Business and Information Technology Careers and the national organization(s) of Future Business Leaders of America.
- Add product listings to your chapter Web page.

Integration/Linkages

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